



Symantec NetBackup **Blueprints** **Blueprint** for Bare Metal Restore (BMR)

Symantec Backup and Recovery Technical Services



Notice



This NetBackup Blueprint presentation includes example diagrams that contain objects that represent applications and platforms from other companies such as Microsoft and VMware. These diagrams may or may not match or resemble actual implementations found in end user environments. Any likeness or similarity to actual end user environments is completely by coincidence.

The goal of the diagrams included in this blueprint presentation is not to recommend specific ways in which to implement applications and platforms from other companies such as Microsoft and VMware; the purpose of these diagrams is to illustrate NetBackup best practices only.

For guidelines and best practices on installing and configuring applications and platforms from other companies, please refer to best practice documentation and other resources provided by those companies.

These **Blueprints** are designed to show customer challenges and how NetBackup solves those.

- Each Blueprint consists of:
 - **Pain Points:** Explain the current challenges a customer faces.
 - **Whiteboards & Example Diagrams:** Describe the implementation of NetBackup solution.
 - **Best Practices:** Present NetBackup best practices to avoid common pitfalls
- Use these **Blueprints** to present the NetBackup best practice implementation example



Pain Points

When a server must be recovered from bare metal, the recovery process presents several challenges to the IT staff:

- System recovery takes too long.
- Nonintegrated methods for system recovery are complex and require highly skilled staff.
- Dissimilar system restore and Dissimilar disk restore.
- Recovery procedures and tools vary from platform to platform.
- System configurations and changes are often not tracked.
- Quickly performs a diskless boot from the network.
- Physical to Virtual conversion.



NetBackup Advantages

- NetBackup Bare Metal Restore (BMR) is the server recovery option of NetBackup. BMR automates and streamlines the server recovery process, making it unnecessary to reinstall operating systems or configure hardware manually. You can restore servers in a fraction of the time without extensive training or tedious administration.
- BMR restores the operating system, the system configuration, and all the system files and the data files with the following steps:
 - Run a single command or a single mouse click from the NetBackup master server.
 - Reboot the client to get client recover automatically.

- Support of Windows, Solaris, AIX, HP-UX, and Linux platforms
 - One option addresses the demands of multiple platforms, eliminating the need for customized restore procedures on each platform.
- Dissimilar system restore (DSR)
 - The capability to restore a machine into a complete different hardware (Windows only).
- Dissimilar disk restore (DDR)
 - The capability to restore to a machine that has a different disk configuration than the original machine.
- Point-in-Time Restore
 - Restore systems back to the point of the last successful backup or to previous backup images.
- External procedures
 - Insert custom scripts within the restore process to help automate operations such as database recovery or application recovery
- Rapid-Fire recovery
 - Execute multiple server restores in parallel to accomplish mass recovery.
- Support network boot and media boot
- Physical to Virtual conversion (P2V)

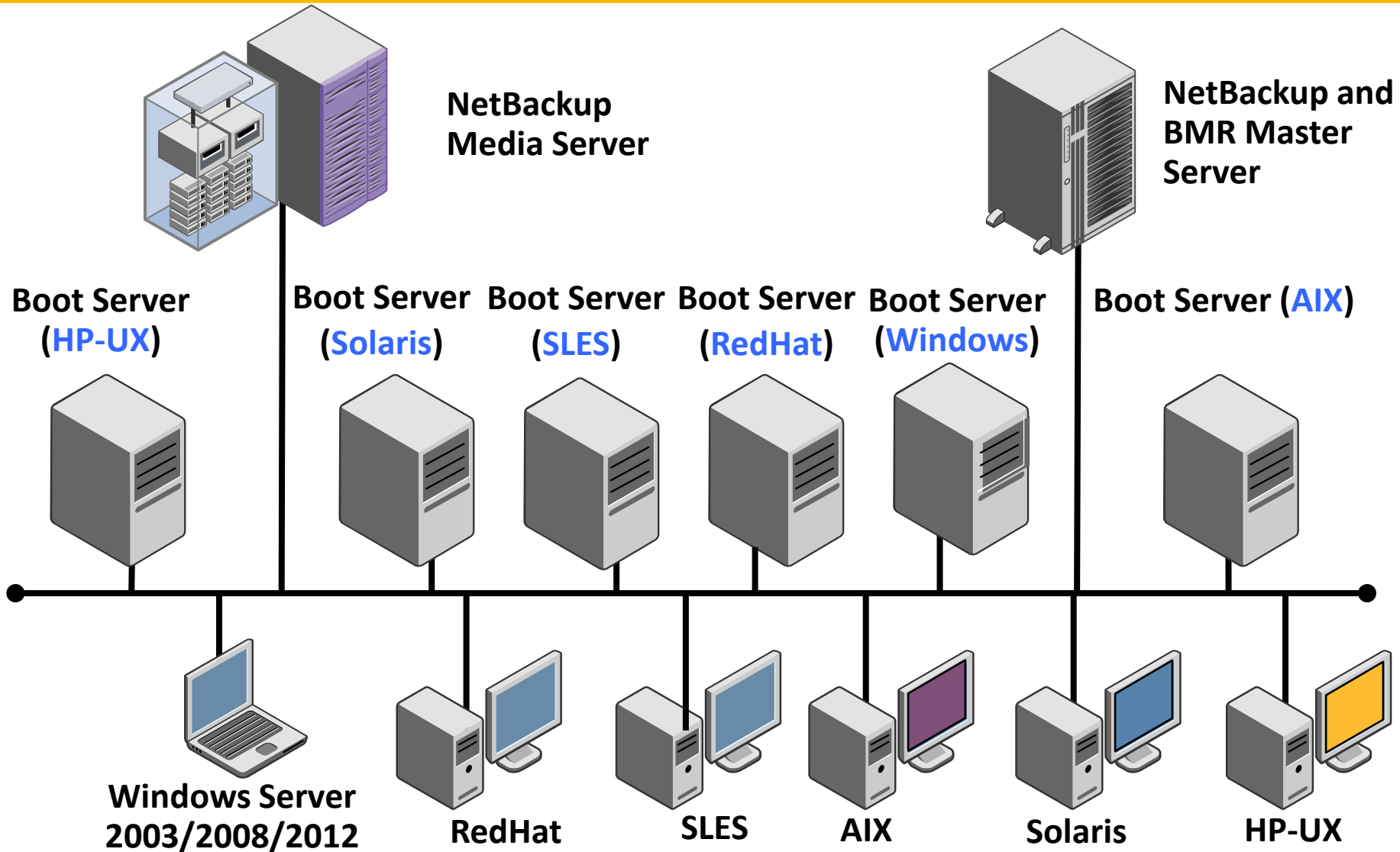


Whiteboards and Diagrams

Term	Description
Shared Resource Tree (SRT)	A source of system resources, including the means to rebuild the client system and restore all system files.
Media boot	This is the process of booting a client using a CD or a DVD.
Network Boot	This is the process of downloading boot code to enable a client to boot out of RAM. The details are different for Windows and UNIX.
Protection domain	A logical grouping of BMR servers and clients that includes the following: one BMR master server, one or more BMR boot servers, and one or more protected clients.
Prepare to restore	Operation that runs on the master server and prepares all the resources necessary to restore the client.
Prepare to discover	Operation that runs on the master server and prepares all the resources necessary to do a discovery boot of a client.
Client configuration	A collection of information about the system. This information includes the following: the number of disk drives, volume and file system information, number and type of network adapters, network properties, drivers, and other system software components.

White Boards: BMR

Example Protection Domain

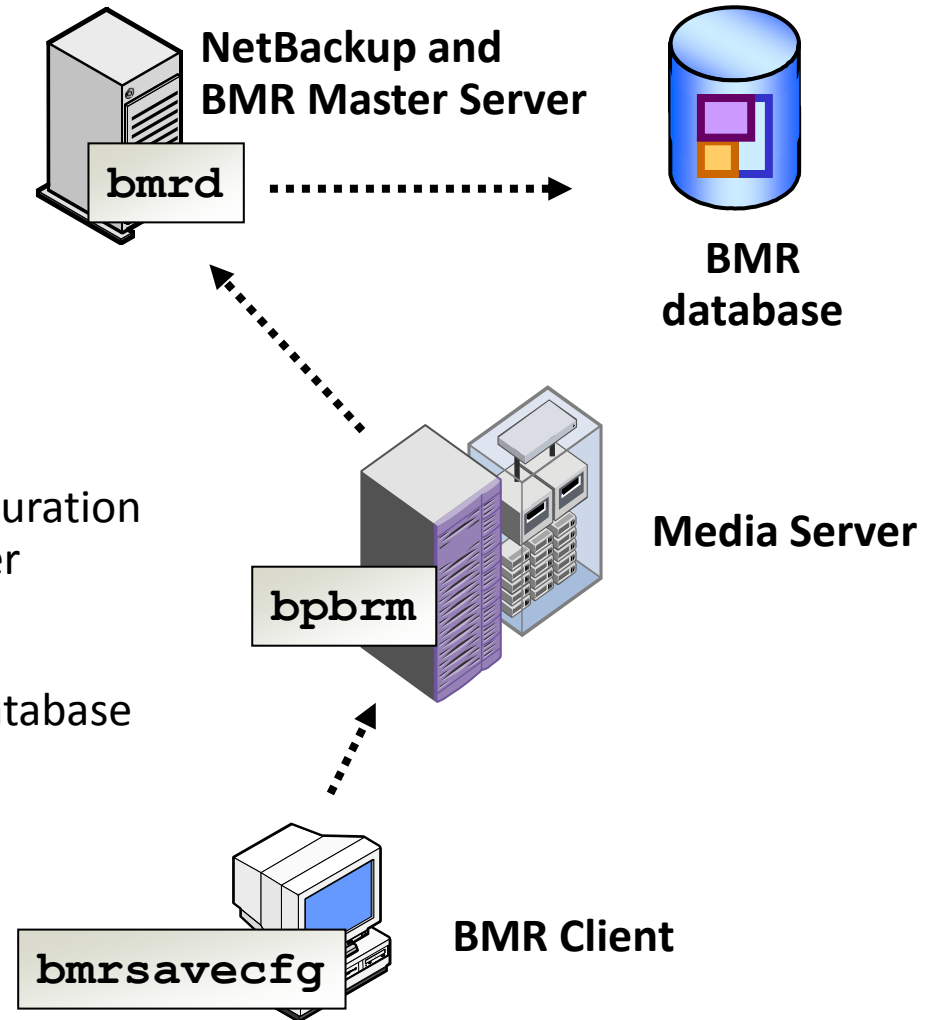


- A shared resource tree (SRT) is BMR system recovery critical software which is a collection of the following:
 - Operating system files
 - NetBackup client software
 - Programs that format drives, create partitions, rebuild file systems, and restore the original files using the NetBackup client software
- For UNIX and Linux systems, each client type and operating system version requires its own SRT; for Windows systems, a single SRT can restore all Windows versions of the same architecture.
- For UNIX and Linux systems, the boot server must run the same version or a later version of the operating system that is installed in the SRT; for Windows systems, any version of Windows can host the SRT.

Whiteboards: BMR

BMR Client Backup Workflow

- 1** Scheduled backup begins.
- 2** `bmrsavecfg` collects client configuration information
- 3** Send client information to the media server
- 4** The media server passes client configuration information to the BMR Master server
- 5** The BMR Master server stores client configuration information to BMR database
- 6** Normal backup begins



Whiteboards: BMR

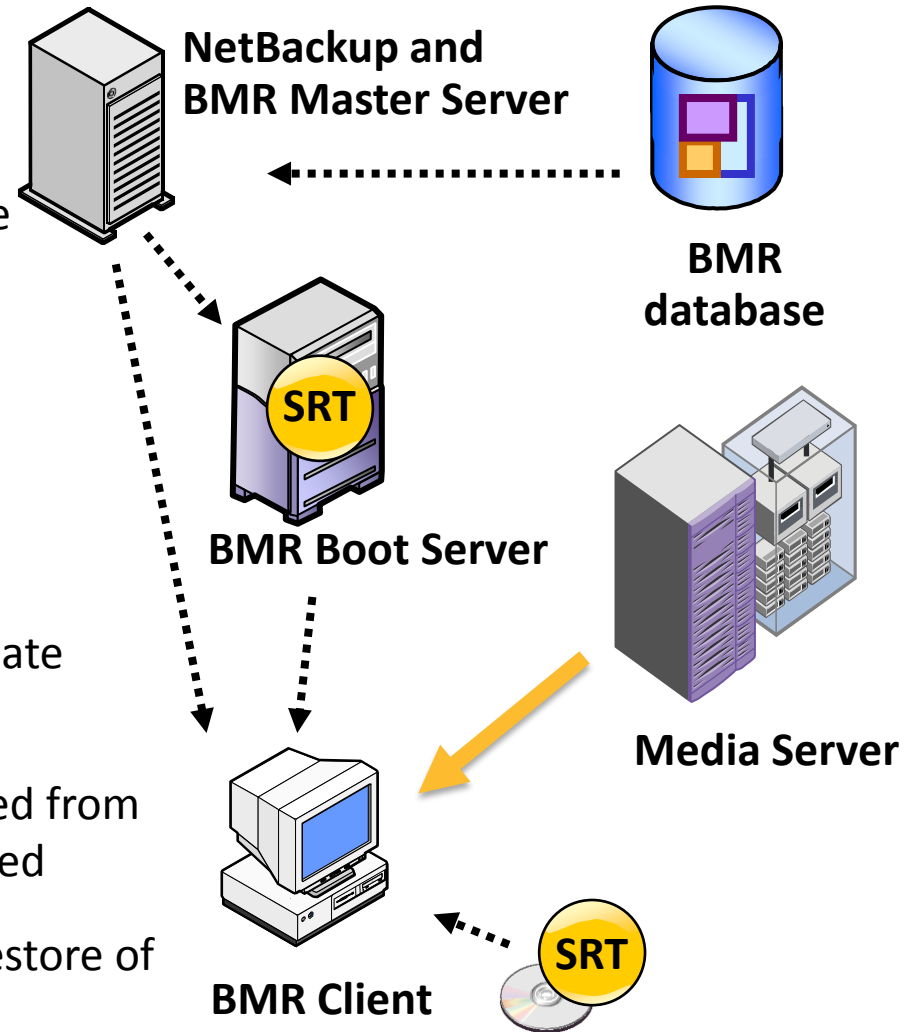
BMR Client Restore Workflow

Prepare to restore

- 1 BMR Master Server retrieves the client configuration
- 2 The BMR Master Server creates the restore procedures
- 3 The BMR Master Server allocates the BMR Boot Server

Restore

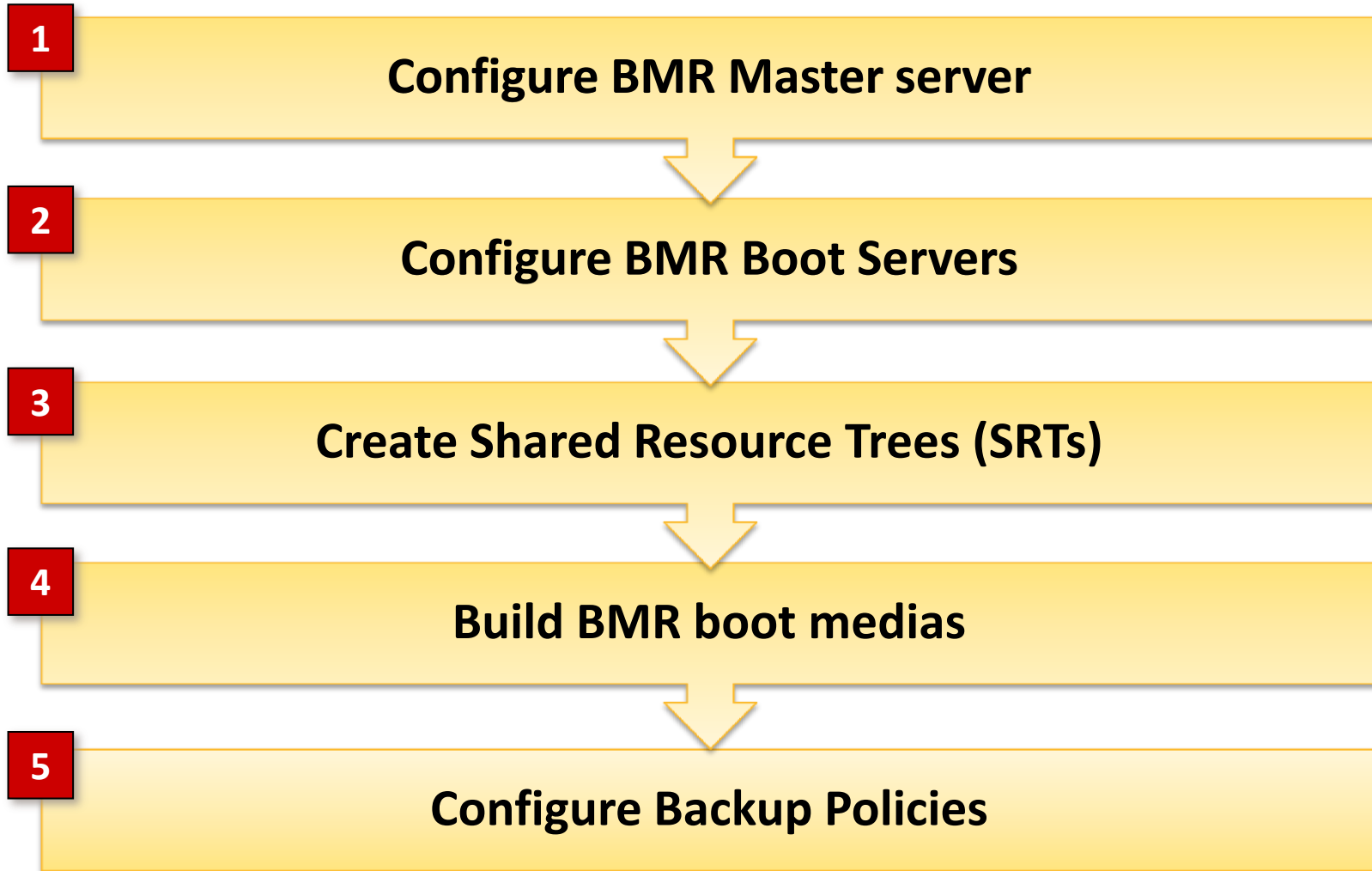
- 4 The client boots from network or media
- 5 The client accesses the SRT and create temporary restore environment
- 6 The restore procedures are retrieved from the BMR Master Server and executed
- 7 The restore procedure initiates a restore of the client's data from NetBackup.



- The BMR master server is bundled with NetBackup master server and is installed along with NetBackup master server.
- The BMR boot server software is installed when you install the NetBackup client. No separate installation is required.
- The BMR client software automatically installed with the NetBackup client software. No special installation or configuration is required.
- Previously, the BMR Master Server acted as the license server for BMR clients. As of the 6.5 release, no separate BMR license is required. Both the NetBackup Enterprise Client and the Standard Client licenses include BMR.

For Network boot based recovery, BMR leverages OS specific NW boot protocols to start recovery. Different NW configurations like PXE, bootp, DHCP, or TFTP, would need to be done for network boot recovery depending on the type of OS.

Type of server	TFTP	DHCP	NFS	BOOTP	PXE
Redhat	✓	✓	✓		
SUSE	✓	✓	✓		
Solaris	✓	✓	✓	✓	
HPUX	✓		✓	✓	
AIX	✓		✓	✓	
Windows	✓	✓			✓



Example Diagram : BMR

Configure BMR Master server on UNIX/Linux



Log on as the root user on Master and run the following command:
bmrsetupmaster

```
root@lnxmaster:/usr/opencv/db/data
File Edit View Search Terminal Help
[root@lnxmaster data]# bmrsetupmaster
[Info] V-127-41 Setting up BMR Database ...
[Info] V-127-38 Initializing BMR database ...
[Info] V-127-39 Loading BMR database ...
[Info] V-127-68 Loading data from unattend.txt into BMR database ...
[Info] V-127-68 Loading data from PnpDB.install.sql into BMR database ...
[Info] V-127-68 Loading data from PnpDB_2003SP1.xml into BMR database ...
[Info] V-127-68 Loading data from PnpDB_2003SP2.xml into BMR database ...
[Info] V-127-68 Loading data from PnpDB_XP.xml into BMR database ...
[Info] V-127-68 Loading data from PnpDB_XPSP1.xml into BMR database ...
[Info] V-127-68 Loading data from PnpDB_XPSP2.xml into BMR database ...
[Info] V-127-68 Loading data from PnpDB_2003.xml into BMR database ...
[Info] V-127-68 Loading data from PnpDB_2003SP2.xml into BMR database ...
[Info] V-127-68 Loading data from PnpDB_WinPE_2003SP1_X64.xml into BMR database ...
[Info] V-127-68 Loading data from PnpDB_WinPE_2008.xml into BMR database ...
[Info] V-127-68 Loading data from PnpDB_WinPE_2008_X64.xml into BMR database ...
[Info] V-127-68 Loading data from RuleDB_WinPE_Compatibility.xml into BMR database ...
[Info] V-127-68 Loading data from unattend.xml into BMR database ...
[Info] V-127-68 Loading data from PnpDB_WinPE_2008_R2_SP0.xml into BMR database ...
[Info] V-127-68 Loading data from PnpDB_WinPE_2008_R2_SP0_X64.xml into BMR database ...
[Info] V-127-68 Loading data from PnpDB_2008_R2_SP0_X64.xml into BMR database ...
Verifying the running version of BMRDB ...
BMRDB version 7.6.0.0 verified.
Upgrading BMRDB (7.6.0.0) to (7.6.0.1) ...
Re-verification of BMRDB at new version, 7.6.0.1
Verification succeeded.
Successfully upgraded BMRDB to version 7.6.0.1
Starting BMRDB database self-tuning. This may take some time...
Found 0 fragmented records in database.
BMRDB database self-tuning is complete.
Database [BMRDB] validation successful.
[Info] V-127-66 Setting up BMR master server completed successfully.
[root@lnxmaster data]#
```

Create the BMR database

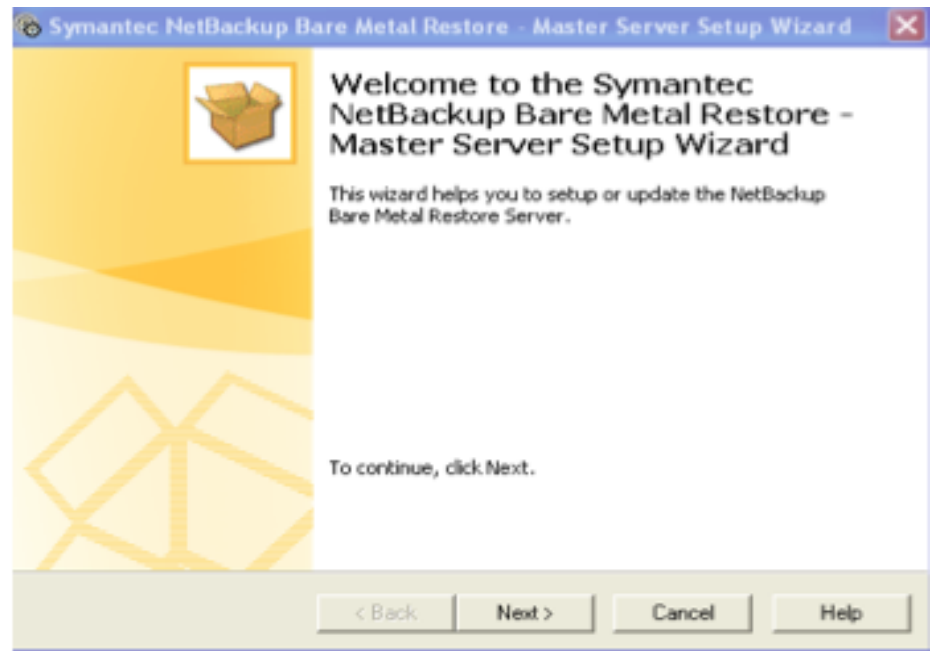
Example Diagram : BMR

Configure BMR Master server on Windows



Use the Master Server Setup Wizard to set up the Bare Metal Restore master server on a Windows system.

1. On the Windows BMR master server, select **Programs > Symantec NetBackup > Bare Metal Restore -- Master Server Setup** from the **Start** menu.
2. Follow the prompts to set up the BMR master server.

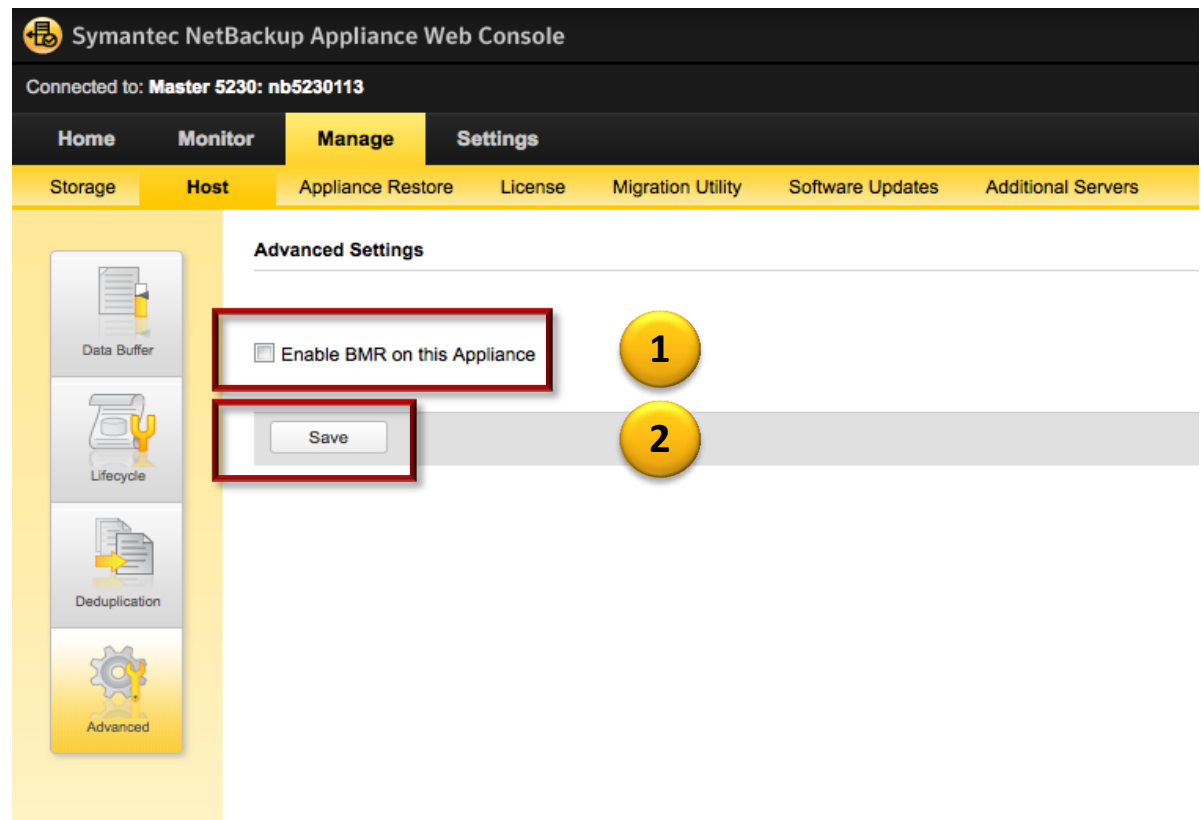


Example Diagram : BMR

Configure BMR Master server on Appliance



- BMR can be enabled from **Manage > Hosts > Advanced** in the NetBackup Appliance Web Console when the appliance is configured as a master server.
- BMR is disabled by default.



Example Diagram : BMR

Configure BMR Boot server



To set up a BMR boot server, run the `bmrsetupboot -register` command on the boot server host.

The screenshot shows the configuration of a BMR boot server. It includes a Windows Command Prompt window, the NetBackup Administration Console, and a terminal window on the boot server.

Windows Command Prompt:

```
C:\>bmrsetupboot -register
[Info] U-127-76 Setting up BMR boot server completed successfully.

C:\>bpps
* WINSERVER
COMMAND
mtstrnd
nbcssc
bpcompatd
nbdisco
vnetd
nbrms
nbsl
nbsucmon
bpineta
bpcd
vmd
nbcconsole
bmrbd
bpps
C:\>_
```

NetBackup Administration Console:

Bare Metal Restore Management - Inxmaster.example.com - NetBackup Administration Console

Name	Operating System	Architecture	Version
Inxmedia.example.com	Linux RedHat 6.1	x86_64	7.6.0.1
winsrvr.example.com	Windows 2008 R2	amd64	7.6.0.1

Terminal Window (root@Inxmedia):

```
root@Inxmedia:/usr/opencv/netbackup/bin
File Edit View Search Terminal Help

[root@Inxmedia Packages]#
[root@Inxmedia Packages]# bmrsetupboot -register
[Info] V-127-76 Setting up BMR boot server completed successfully.
[root@Inxmedia Packages]# bpps -a | grep bmr
root    25246    1 1 06:35 ?        00:00:00 /usr/opencv/netbackup/bin/bmrbd
[root@Inxmedia Packages]#
```

Whiteboards: BMR

Creating UNIX/Linux SRTs Using `bmrprtadm`



1. Enter the name of the SRT.
2. Enter a description of the SRT.
3. Enter the level of OS and Architecture (32/64).
4. Specify the path to the directory in which to create the SRT.
5. Enter the path to the OS installation files.
6. Enter the name of the device in which the BMR Third-Party Products CD (Linux only).
7. Enter the path to the NetBackup client installation files.
8. Answer the various NetBackup installation prompts.

```
root@lnxmedia:/usr/opensv/netbackup/bin
File Edit View Search Terminal Help
[root@lnxmedia Packages]#
[root@lnxmedia Packages]# bmrprtadm

Select one of the following options:
1. Create a new Shared Resource Tree.
2. Create a new CD image based Shared Resource Tree.
3. Copy an existing Shared Resource Tree to a new location.
4. Import a Shared Resource Tree.
5. Modify an existing Shared Resource Tree.
6. Delete an existing Shared Resource Tree.
7. List Shared Resource Trees available on this server.
8. Quit.

Enter your selection (1-8) [1] :
Enter the name of the SRT to create : redhat61
Enter the description of the new SRT : for lnxclient
Enter the desired RedHat level (3/3.0 or 4/4.0 or 5/5.0 or 6/6.0) [6.0] :
Enter the desired architecture (i686 or x86_64) [x86_64] :
Enter the directory in which to place the new SRT [/export/srt] :
```

```
root@lnxmedia:/usr/opensv/netbackup/bin
File Edit View Search Terminal Help

The NetBackup Client installation script has completed.
Unmounting media ... ok.
[Info] V-125-668 SRT "redhat61" has been initialized successfully.

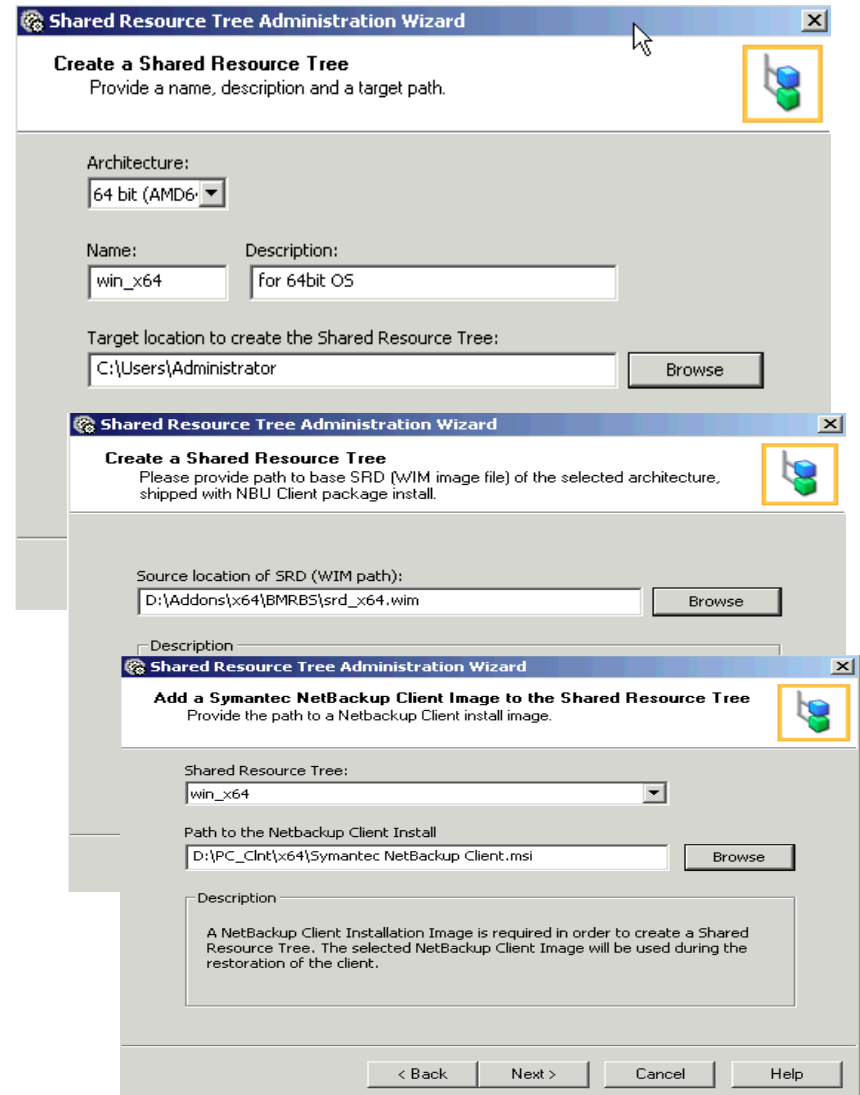
-----
SRT name:      redhat61
Location:     /export/srt/redhat61
Description:  for lnxclient
Exclusive use: (none)
-----
```

Whiteboards: BMR

Creating Fast Restore SRTs for Windows



1. From the Start menu on the Windows BMR boot server that is to host the SRT, select Programs > Symantec NetBackup > Bare Metal Restore Boot Server Assistant.
2. Click Shared Resource Tree Administration Wizard.
3. Select the option to create a shared resource tree.
4. Select the type of Shared resource tree: Fast Restore SRTs or Legacy SRTs.
5. Select Architecture, enter the name, description and target location for SRT.
6. Specify the source location of SRD.
7. Enter the path of NetBackup client software image.



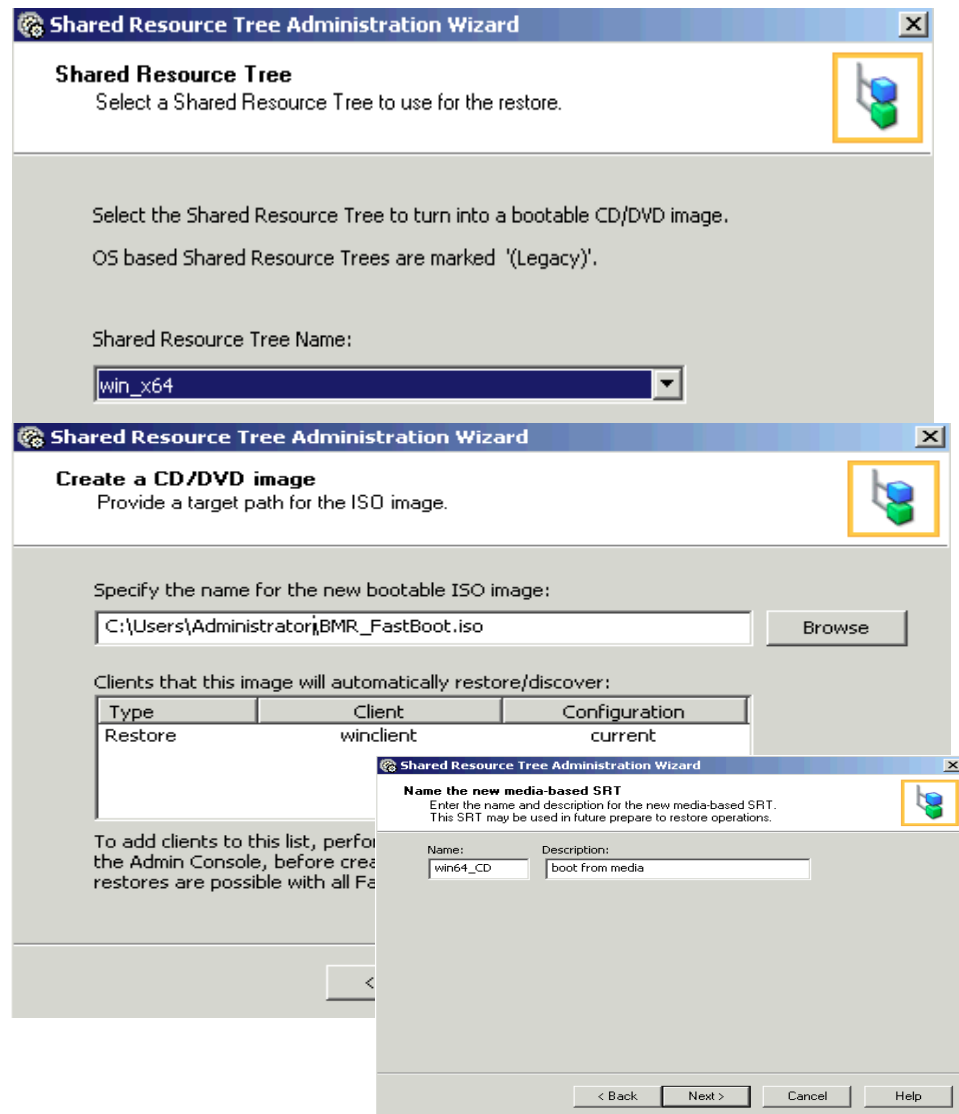
Example Diagram : BMR

Creating a UNIX/Linux Boot Media from SRT

```
root@lnxmedia:~  
File Edit View Search Terminal Help  
[root@lnxmedia ~]# bmsrtdm  
Select one of the following options:  
1. Create a new Shared Resource Tree.  
2. Create a new CD image based Shared Resource Tree.  
3. Copy an existing Shared Resource Tree to a new location.  
4. Import a Shared Resource Tree.  
5. Modify an existing Shared Resource Tree.  
6. Delete an existing Shared Resource Tree.  
7. List Shared Resource Trees available on this server.  
8. Quit.  
Enter your selection (1-8) [1] : 2  
Enter the name of an existing SRT : redhat61  
Enter the name of the new SRT to create : rh61_CD  
Enter the description of the new SRT [for lnxclient] :  
Enter the directory in which to place the new SRT CD image [/export/srt] :  
[Info] V-125-718 Media image has been successfully created.  
[root@lnxmedia ~]#  
[root@lnxmedia ~]#  
[root@lnxmedia ~]# ls -la /export/srt  
total 717240  
drwxr-xr-x. 3 root root 4096 Jun  2 02:42 .  
drwxr-xr-x. 3 root root 4096 May 29 08:07 ..  
drwxr-xr-x. 15 root root 4096 May 29 08:44 redhat61  
-rw-r--r--. 1 root root 734437376 Jun  2 02:42 rh61_CD.iso  
[root@lnxmedia ~]#
```

Specify an existing SRT

1. Prepare to restore the client.
2. From the Start menu on the Windows BMR boot server that is to host the SRT, select Programs > Symantec NetBackup > Bare Metal Restore Boot Server Assistant.
3. Click Shared Resource Tree Administration Wizard.
4. Select the option for Create a Bootable CD/DVD from a Shared Resource Tree.
5. Select the SRT to use for the bootable image.
6. Select a target directory to be used in the create ISO process.
7. Enter the SRT name and description.



Shared Resource Tree Administration Wizard

Shared Resource Tree
Select a Shared Resource Tree to use for the restore.

Select the Shared Resource Tree to turn into a bootable CD/DVD image.
OS based Shared Resource Trees are marked '(Legacy)'.

Shared Resource Tree Name:
win_x64

Shared Resource Tree Administration Wizard

Create a CD/DVD image
Provide a target path for the ISO image.

Specify the name for the new bootable ISO image:
C:\Users\Administrator\BMR_FastBoot.iso

Clients that this image will automatically restore/discover:

Type	Client	Configuration
Restore	winclient	current

To add clients to this list, perform the Admin Console, before create restores are possible with all Fa

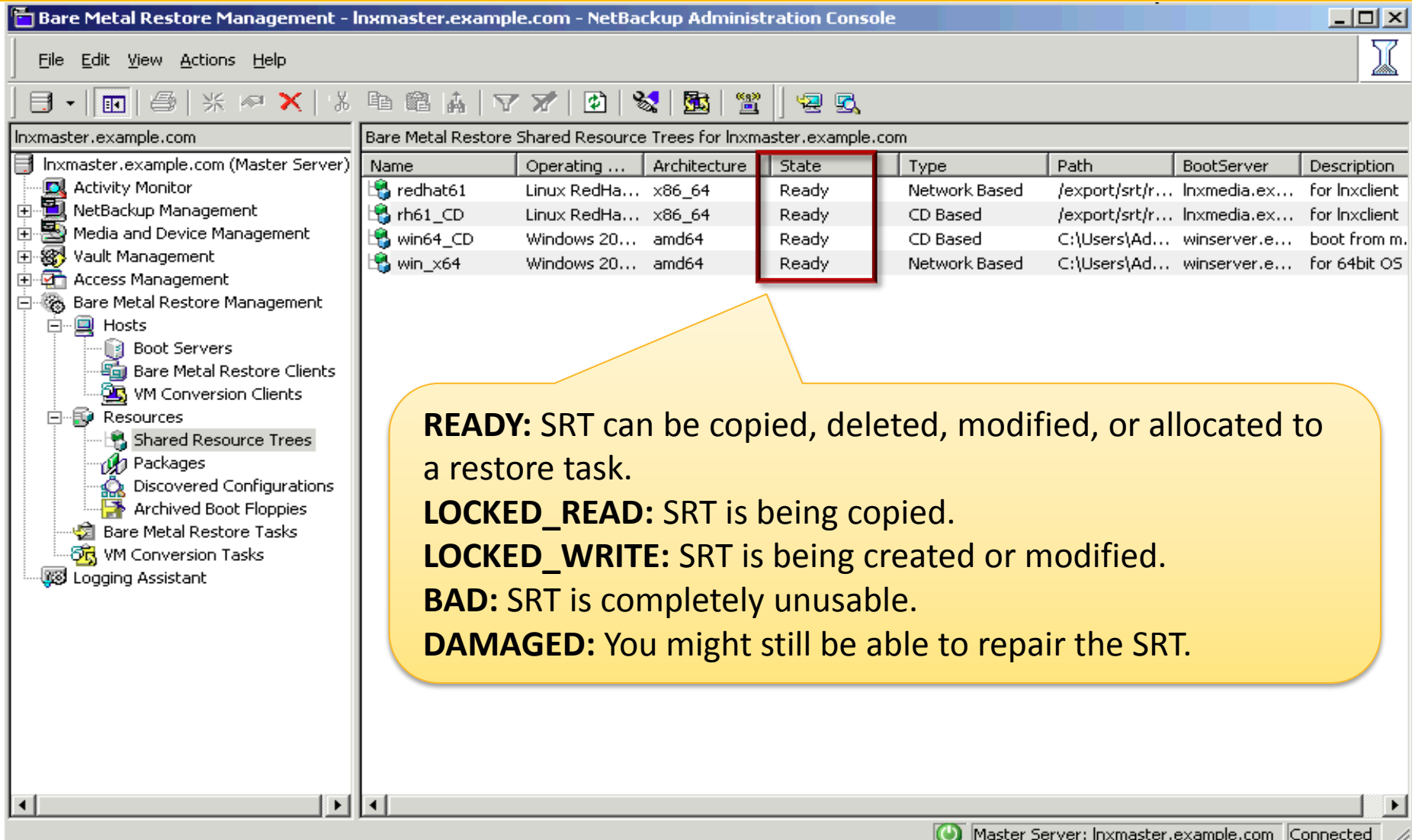
Shared Resource Tree Administration Wizard

Name the new media-based SRT
Enter the name and description for the new media-based SRT.
This SRT may be used in future prepare to restore operations.

Name: win64_CD Description: boot from media

< Back Next > Cancel Help

Example Diagram : BMR SRT States



Bare Metal Restore Management - Inxmaster.example.com - NetBackup Administration Console

Inxmaster.example.com (Master Server)

Name	Operating ...	Architecture	State	Type	Path	BootServer	Description
redhat61	Linux RedHa...	x86_64	Ready	Network Based	/export/srt/r...	Inxmedia.ex...	for Inxclient
rh61_CD	Linux RedHa...	x86_64	Ready	CD Based	/export/srt/r...	Inxmedia.ex...	for Inxclient
win64_CD	Windows 20...	amd64	Ready	CD Based	C:\Users\Ad...	winserver.e...	boot from m...
win_x64	Windows 20...	amd64	Ready	Network Based	C:\Users\Ad...	winserver.e...	for 64bit OS

READY: SRT can be copied, deleted, modified, or allocated to a restore task.
LOCKED_READ: SRT is being copied.
LOCKED_WRITE: SRT is being created or modified.
BAD: SRT is completely unusable.
DAMAGED: You might still be able to repair the SRT.

Example Diagram : BMR

Configuring policies for BMR clients



The screenshot shows the NetBackup Administration Console interface. The left pane displays a tree view of the configuration hierarchy, with 'Policies' expanded to show 'BMR-win'. The main pane shows the 'BMR-win: Attributes' configuration window. A table lists the policy attributes, with 'Collect Bare Metal Restore Information' set to 'Yes'. Below this, a table shows the client 'winclient' with hardware 'Windows-x64' and operating system 'Windows2008'. At the bottom, the 'Backup Selections' section shows 'ALL_LOCAL_DRIVES' selected. Three callout boxes provide instructions: one for the policy type, one for the disaster recovery attribute, and one for the backup selection directive.

Name	Type	Storage	V...	C...	E...	Collect Bare Metal Restore Information
BMR-win	MS-Windows	advdisk-st...	...	---	5/...	Yes

Client name	Hardware	Operating System
winclient	Windows-x64	Windows2008

Backup Selections
ALL_LOCAL_DRIVES

Policy type must be **MS-Windows** or **Standard**

Must set the **Collect disaster recovery information for Bare Metal Restore** attribute

To ensure complete system recovery, use the **ALL_LOCAL_DRIVES** directive to back up all local drives.

Example Diagram : BMR

Restoring UNIX/Linux clients using network boot



The screenshot displays the Symantec NetBackup Bare Metal Restore Administration Console. The main window shows a tree view of Bare Metal Restore Clients for 'Inxmaster.example.com'. A context menu is open over the 'current' client, with 'Prepare to Restore...' selected (marked with a red box and a yellow circle '1'). An orange arrow points from this menu item to a 'Prepare to Restore Client: inxclient' dialog box (marked with a yellow circle '2'). The dialog box shows the client name 'inxclient', configuration 'current', and architecture 'x86_64'. A yellow callout box (marked with a yellow circle '3') points to the dialog box. Below the console, a terminal window shows the following text:

```
Symantec Bare Metal Restore is ready to begin.
boot server ..... Inxmedia.example.com
selected SRT ..... redhat61
restore client ... Inxclient

Press ENTER to start Bare Metal Restore
boot:
Loading redhat61/umluniz.....
.....
Loading redhat61/initrd.img.....
```

A yellow callout box with the text 'Boot client' is positioned over the terminal output.

Example Diagram : BMR

Restoring Windows clients using network boot



The screenshot displays the Symantec NetBackup Administration Console interface. The left pane shows the tree structure under 'Inxmaster.example.com (Master Server)', with 'Bare Metal Restore Management' expanded to show 'Hosts' and 'Bare Metal Restore Clients'. The main pane shows 'All Bare Metal Restore Clients for Inxmaster.e' with a context menu open over the 'current' client. The context menu includes 'New Client Configuration...' (highlighted with a red box and a yellow circle with the number 1), 'Prepare to Restore...', 'Prepare to Discover...', 'Change...', 'Delete', and 'Refresh'. An orange arrow points from the 'New Client Configuration...' option to the 'Prepare to Restore Client: winclient' dialog box. The dialog box shows fields for 'Client: winclient', 'Configuration: current' (with a yellow circle with the number 2), 'Configuration Architecture: amd64', and 'Shared resource tree: win_x64'. There are several checkboxes for restore options, with 'Make available volumes on non-restored disks after the system is restored' checked. At the bottom of the dialog are 'OK', 'Cancel', and 'Help' buttons. In the foreground, a 'NetBackup Bare Metal Restore' progress window is shown with a yellow circle with the number 3. It displays the following status: 'Bare Metal Restore in Progress...', 'Successfully established restore environment', 'Successfully partitioned disks', 'Successfully formatted drives', and 'Restoring files...'. A 'Finalize Restore' button is visible. A yellow callout box with the text 'Boot client' points to the progress window. The 'Details' section shows 'Restoring C:*...' and a 'Stop' button is at the bottom.

Example Diagram : BMR

Monitoring BMR Tasks



Bare Metal Restore Management - Inxmaster.example.com - NetBackup Administration Console

File Edit View Actions Help

Inxmaster.example.com

- Inxmaster.example.com (Master Serv...
- Activity Monitor
- NetBackup Management
- Media and Device Management
 - Device Monitor
 - Media
 - Devices
 - Credentials
- Vault Management
- Access Management
- Bare Metal Restore Management
 - Hosts
 - Boot Servers
 - Bare Metal Restore Client
 - VM Conversion Clients
 - Resources
 - Shared Resource Trees
 - Packages
 - Discovered Configuration
 - Archived Boot Floppies
 - Bare Metal Restore Tasks**
 - VM Conversion Tasks
- Logging Assistant

Bare Metal Restore Tasks for Inxmaster.example.com

Client	Configura...	Shared R...	State	Operation	Status	Start Time	End Time	Type
Inxclient	current	redhat61	Done		0	5/29/2014 ...	5/29/2014 ...	Restore
winclient	current	win_x64	Active	Finalizing		5/29/2014 ...		Restore

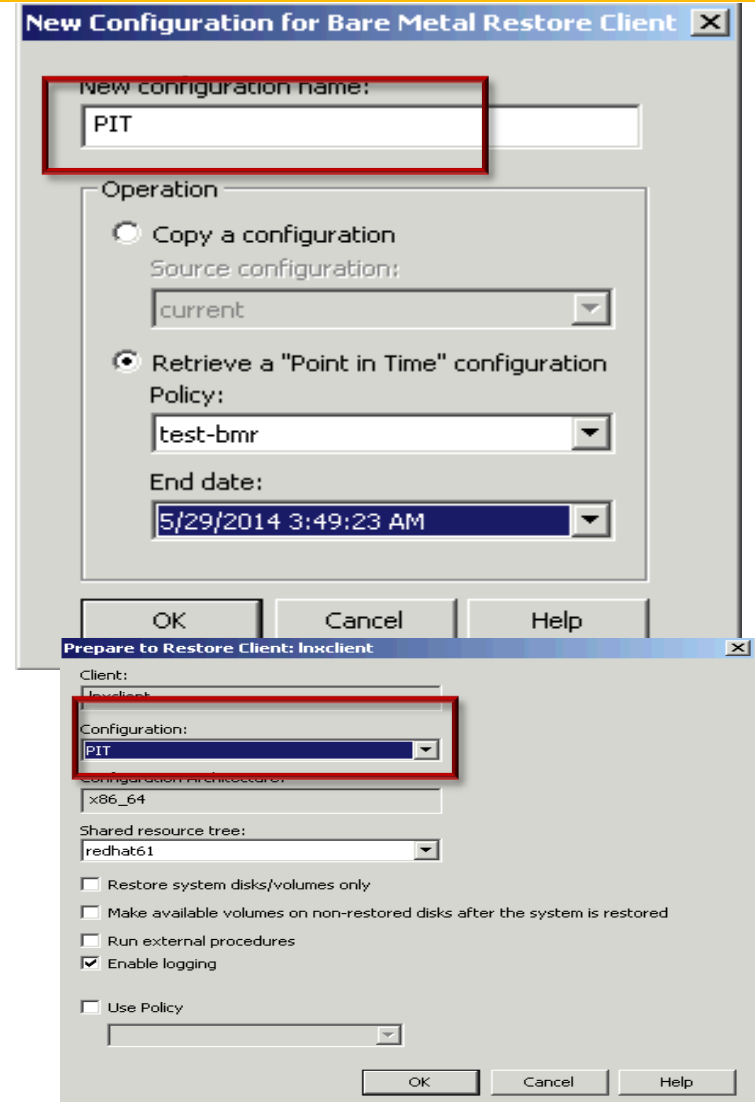
Master Server: Inxmaster.example.com Connected

Whiteboards: BMR

Restoring to a Point in Time



1. Open Bare Metal Restore Clients view.
2. Right-click the current configuration for a client and select **New Client Configuration**.
3. Enter a new configuration name.
4. Click **Retrieve a PIT Configuration**.
5. Select the **Policy** and **End Date** for the restore.
6. Click **OK**.
7. **Prepare to restore** the client using the new configuration.
8. Perform the restore.



Whiteboards: BMR

Dissimilar Disk Restore (DDR) workflow



1. Discover the client using Prepare to discover procedure.
2. Boot the client to start the hardware discovery operation.
3. Copy the configuration to a new editable one.
4. Open the Change configuration dialog box for the new configuration.
5. Initialize and map the volume layout in the new configuration.
6. Prepare to restore the client using the new configuration.
7. Boot the client to begin the restore.

Prepare to Discover

Host to discover

Operating system: Windows 2008 R2

Shared resource tree: win_x64

Architecture: amd64

NetBackup master server IP address: 10 . 10 . 2 . 13

Gateway to the NetBackup master server:

Console device name:

Network properties

Pre-load values from interface: Local Area Connection

IP address: 10.10.2.101

Network mask: 255 . 255 . 255 . 0

Default gateway: 10 . 10 . 2 . 1

Hardware MAC address: 00-0C-29-52-56-E7

New configuration name: DDR

Run External Procedures Enable Logging

OK Cancel Help

1. Discover the configuration of the target system.
2. Create an editable DSR configuration.
3. Add NIC and MSD drivers.
4. Change network interfaces.
5. Map the disks.
6. Create boot media If you use media to start the target system.
7. Restore the client.
8. Log on to the client as an administrator.

Whiteboards: BMR

Client-VM conversion workflow



Start

Preface

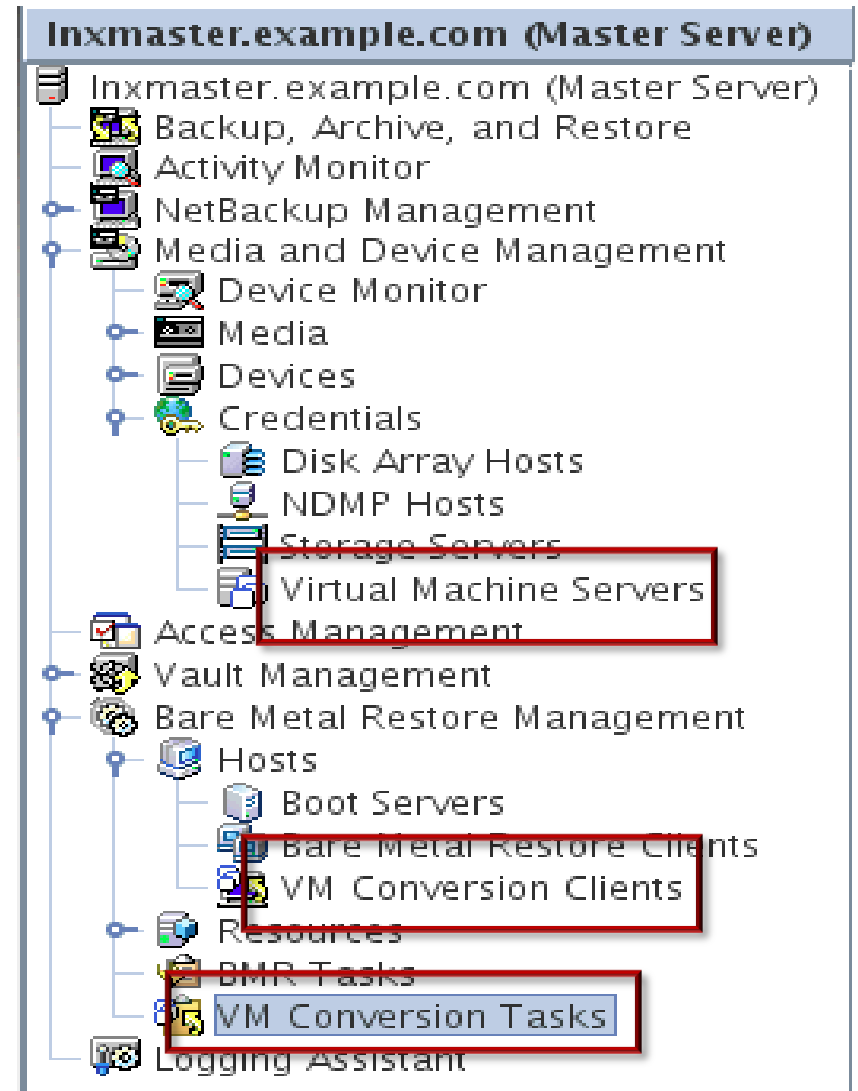
How to Use

Advantages

Whiteboards and Diagrams

Life Preservers

1. Take BMR enabled Client Backup.
2. Register Hypervisor server and NetBackup recovery host in NetBackup master(Single time registration).
3. Run “Backup to virtual machine conversion” wizard or run the command line.
4. Find selected client VM created and powered-on the VM.



Following are the originator IDs for the BMR processes that perform logging:

119: bmrdb and bmrbd

121: bmrsavecfg

122: bmrc

123: bmrs

125: bmrstadm

126: bmrprep

127: bmrsetupmaster and bmrsetupboot

128: Miscellaneous

129: bmrconfig

130: bmrcreatepkg.exe

(Windows systems only)

131: bmrst.exe and bmrmap.exe

(Windows systems only)

142: bmrpadm

152: bmrrovradm

248: bmrlauncher

433: bmr2v

434: bmr2vrst



Life Preservers

- If you use more than one policy to back up a client, use the exact same name for the client in each policy.
- Ensure that client restore requests are allowed by the BMR Master Server and BMR client.
- The boot server must be on same subnet as their clients or have `bootp` relays configured depending on the intricacies of the specific platform.
- To avoid incomplete client backup operations:
 - For UNIX clients, retry file backups if a file changes during the backup attempt.
 - For Windows clients, use the Windows Open File Backup option.
- Ensure that no other network boot services except the valid one providing BMR client network boot is running in the same subnet.

- NetBackup 7.6 Bare Metal Restore Administrator's Guide
<http://www.symantec.com/docs/DOC6472>
- NetBackup 7.x hardware compatibility list (HCL)
<http://www.symantec.com/docs/TECH76495>
- NetBackup 7.x operating system compatibility list
<http://www.symantec.com/docs/TECH76648>
- Requirements for Bare Metal Restore (BMR) Boot Servers
<http://www.symantec.com/docs/TECH87607>

Thank You!

NetBackup Product Management